

Gordius was obtained by Professor Baird from a spring in Essex county, New York. It is very much more delicate than the former, and from 5 to 7 inches long. The female caudal extremity is blunt. The male caudal extremity is bifurcate and fringed with peculiar epidermoid appendages.

For this second species the name *Gordius lineatus* was proposed.

Dr. L. also had found several remarkable species of *Mermis*, *Dujardin*.

Eleven specimens of one species were procured by Dr. Budd from a ditch in New Jersey. These are yellowish white in color, and from 6 to 18 inches in length. To the species the name *Mermis elongata* was given.

A second species was found in a ditch near Philadelphia. It is pure white in color, 8 inches long, and has a peculiar tubercular thickening of the integument upon the caudal extremity. For this species the name *Mermis crassicauda* was proposed.

Dr. L. further remarked that he had lately had an opportunity of repeating his former investigations\* upon the embryology of *Gordius varius*.

The embryology of *Gordius aquaticus*, *L.*, had been studied and published by Gruby† before he had published his notes, but he did not know it at the time, which he considered important, as the observations conducted in two parts of the world, though differing in several specific points, were generally confirmatory of one another.

The perfect embryo of *Gordius varius* differs so much from the parent that it is impossible to recognise the latter in the former. This has two circles of protractile tentaculæ, each of six, and a protractile proboscis, not uncinatæ, however, as in the embryo of *Gordius aquaticus*‡, no trace of which exist in the parent. The body of the embryo consists of two portions, and is distinctly annulated, while the parent is simply hair-like in form, and has no trace of an annulated integument. Gruby remarks he never saw the *Gordius*, excepting the embryo, shorter than  $3\frac{1}{2}$  inches,§ so that between the annulose, tentaculated embryo, in the *Gordius varius* the 1-466th of an inch in length, and the parent of at least  $3\frac{1}{2}$  inches, nothing whatever is known of the history of the animal. Gordii have been stated upon numerous and the most reliable authorities to have been seen in the body of insects, so that from the embryo to the parent, there may probably be a series of forms in alternating generation, entozoic and ectozoic, as numerous and unlike as has been observed in the development of certain species of *Distoma*.

The *Gordius varius* is prolific in a very remarkable degree. A female 9 inches in length placed in a tumbler of water, September 25th, up to the present time has extruded a string of ova 49 inches in length and still actively continues the process.

September 16th.

Vice President BRIDGES in the Chair.

Dr. Le Conte, of New York, read a continuation of his paper, entitled "An attempt to classify the Longicorn Coleoptera of the part of America north of Mexico;" which being intended for publication in

\* Proc. Acad. Nat. Sci., Vol. 5, p. 98.

† Archiv für Naturgesch. 1849, p. 358.

‡ Ibid, pl. 7, fig. 10.

§ Ib. p. 374.

the Journal, was referred to Dr. Zantzing, Dr. Leidy, and Prof. Haldeman.

Dr. Leidy presented a paper entitled "Conspectus Crustaceorum quæ in Orbis Terrarum circumnavigatione, Carolo Wilkes e Classe Reipublicæ Fœderatæ duce, lexit et descripsit J. D. Dana," intended for publication in the Proceedings of the Academy. Referred to the committee on a former paper on the same subject by Mr. Dana.

A letter was read from the Imperial Society of Naturalists of Moscow, dated 6th and 18th May, 1851, presenting the numbers of the Bulletin of that Institution announced this evening.

Dr. LeConte exhibited a series of tertiary fossils from San Diego, California; they bore the closest resemblance to species now living on that coast: the formation is of great extent along the coast, although very narrow. In passing from San Diego to the Colorado river, he observed that these tertiary beds were soon succeeded by various kinds of porphyry, and these by sienitic metamorphic rocks; the upper beds of these exhibited a very curious arrangement, being light coloured, with fusiform masses of darker sienite, all placed with their longitudinal axes parallel. The sections of these masses were 5—18 inches long, and  $1\frac{1}{2}$  to 3 inches thick; these metamorphic rocks became more granitic, and in some places gneissoid in their character towards the central part of the Sierra. Near Vallejo these micaceous strata were much contorted. The eastern range of the Sierra at this point consists entirely of a very coarse conglomerate, containing rounded masses from the above mentioned metamorphic rocks of immense size: the cement is granitic gravel, with a very small amount of calcareous matter. Dr. LeConte was inclined to consider this chain, which is near 5000 feet high, as belonging to the cretaceous epoch; it is flanked by a small deposit of unstratified drift, which becomes stratified a few miles distant from the base of the mountains. Underlying the drift is a tertiary formation containing small beds of sandstone and gypsum, precisely as at San Diego: only *Ostrea* were found in these beds. In a small hill north of Cariso Creek, he had found limestone beds composed almost entirely of *Gnathodon*, and farther in the desert the same shell was found in strata of clay, lying almost vertically. The desert has two levels, the lower being covered with alluvium, containing numerous *Planorbis* and *Anodon*, with smaller fresh water species now inhabiting the Colorado; the upper level is about 50 to 70 feet above this alluvium, and consists of stratified matter usually very sandy, and belongs to the drift epoch. The range of sand hills is formed from the lighter portions of this upper level near the edge. In the northern part of the desert is a salt lake, on the edge of which is a solfatara with boiling water and mud; some of the water issues in jets from small cones of inspissated mud, which form over the circular pools. The water deposited large quantities of sal ammoniac tinged with sulphur, and within a short distance from these pools are eight small volcanic mounds of lava and pumice; for many miles stranded pieces of pumice are found on the alluvial level.

Dr. LeConte also expressed his opinion that the Vancouver Island coal belonged, like that found in Oregon, to the tertiary epoch; it was very fragile and light, exhaled a peculiar odor which is characteristic of tertiary lignites.

It existed in a single stratum (as he learned from persons who had visited the

bed,) of 22 inches in thickness, horizontal, and but a short distance from the surface. The shafts sunk had not yet reached any other deposit.

No distinct vegetable impressions had been found, although Dr. L. had carefully examined a large quantity of the coal. He considered the existence of true carboniferous deposits in California highly improbable.

Dr. Leidy called the attention of the members to a pyriform mass, about three inches long by one and a half broad at the base, suspended in a vessel of water. This, he said, consisted of numerous Polypi within their Polypidom encrusting a dead branch of a tree, and was taken from a similar mass one yard long, with an additional lateral branch two feet long, found in a ditch below the city. The species he characterized as follows:

CRISTATELLA, *Cuv.*

CRISTATELLA MAGNIFICA, *n. s.*

*Polypidom* massive, fixed, encrusting bodies from a few inches to several feet in length, by a few lines to 2 inches in diameter, gelatinoid, consistent, hyaline, with numerous polypi upon the free surface arranged in close, irregular areolæ.

*Polypi* furnished with 2 lobes conjoined together in the form of U, enclosing the mouth at the base, and having diverging from the margins from 50 to 80 sigmoid tentaculæ arranged at the summit in the double outline of U, with the extremities of the arms of the latter inclining towards each other. Lip elevated, with the base of the tentacular lobe, and the lower fourth of the inner margin of the tentaculæ in the vicinity of the mouth, lake or dark rose-red colour; œsophagus colorless; stomach longitudinally folded, yellowish brown; rectum dilatable, hyaline, its extremity slightly projecting but retractile.

Length from the bottom of the stomach to the top of the extended tentaculæ  $1\frac{1}{2}$  lines. Long diameter of tentacular expanse  $\frac{1}{2}$  to 3-5th line. Length of tentaculæ 1-40th in.; breadth 1-1000th in.

*Ovum* lenticular, brown, enclosed at the margin by a brownish white, annular, cellular sheath, 1-200th in. deep upon one side, 1-166th in. upon the other side, furnished at its outer edge with 14 to 16 appendages 1-200th in. long, terminating in a double, rarely a triple hooklet. Ovum with its sheath, thin, discoidal, bent, 1-33d in. broad, with its appendages enveloped in a hyaline, albuminoid mass; when ripe floating.

*Habitation*.—Upon dead branches or twigs of trees, in ditches or sluggish streams in the neighbourhood of Philadelphia, in shaded situations.

*Remarks*.—The extent of this polyp appears to be determined by that of its basement of attachment. It is usually found surrounding twigs or dead branches of trees which have fallen into the water, and is permanently fixed to its position.

The surface of the polyp mass has the appearance of being covered with a dense mucor from the numerous tentaculæ projecting from it. Immediately beneath this is a layer having a faint roseate hue from the red colouring in the vicinity of the mouth of the polypi, then succeeds a layer of a dirty yellowish color, arising from the stomach of the animals, beneath which are numerous opaque, white, yellowish, and brown spots, which are ova in various stages of development, and finally the greater depth of the mass consists of a perfectly hyaline, consistent, gelatinoid substance.

After the death of the animals, and their bodies and tubes have macerated from the surface of the Polypidom, their bases upon the areolæ of attachment have an irregular stellate or lobate appearance, which penetrate in a convergent manner to the nuclear twig or branch. The decaying mass has a strong odor in a remarkable degree like that of putrid fish.

The animal is not so irritable as Plumatella, but is like it capable of entirely retracting within its tube, in which state the stomach appears transversely wrinkled.

The ova as they are detached from the mass rise near, or to the surface of the water and float.

There is probably some confusion existing in the distinction of the genera *Cristatella* and *Alcyonella*, as characterized by Cuvier, Lamarck, Allman, &c., but if correct then *C. magnifica* would belong to a new genus between *Cristatella*, *Cuv.*, and *Alcyonella*, *Lam.*, for while the polyp and its ovum correspond to the former, the polypidom corresponds to the latter. Should it prove distinct I propose for it the name *Pectinatella*.

Dr. Leidy further stated as follows:

The female *Gordius* which he had mentioned at the last evening, as having extruded from September 25th up to that time a cord of ova 49 inches in length, had continued the process until Sunday evening, October 7th, up to which time it had expelled in fragments from a few lines to one foot in length, in all a cord 91 inches long, in which he estimated there were over 6,000,000 ova. Dr. L. exhibited the cord of ova preserved in alcohol, which was long and white and resembled a piece of cotton thread.

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September 23d.

Vice President BRIDGES in the Chair.

A letter was read from the Linnean Society of London, dated June 5th, 1851, acknowledging the receipt of numbers 6 and 7, Vol. 5, of the Proceedings of the Academy.

Dr. McEuen exhibited a specimen of the fruit of *Paullownia imperialis*, from the garden of Mrs. J. B. Smith of this city.

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September 30th.

Vice President BRIDGES in the Chair.

The committee to which was referred the continuation of Dr. Le Conte's paper on the Longicorn Coleoptera of the United States, reported in favor of publication in the Journal.

The Committee to which was referred Mr. J. D. Dana's paper, read 16th inst., reported in favour of publication in the Proceedings.